

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Kiyotaka UMEMOTO et al.

Attorney Docket Number: 103213-00079

Serial Number: NEW PATENT APPLICATION

Filed: April 13, 2004

For: POWER SUPPLY APPARATUS

**INFORMATION DISCLOSURE STATEMENT**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Date: April 13, 2004

Sir:

Pursuant to 37 CFR §1.56, the attention of the Patent and Trademark Office is hereby directed to the information items listed on the attached PTO-1449. Unless otherwise indicated herein, one copy of each item is attached. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the items be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

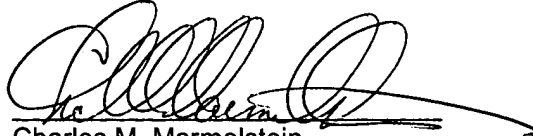
- ☒ 1. This Information Disclosure Statement is being filed (a) within three months of the U.S. filing date, OR (b) before the mailing date of a first Office Action on the merits in the present application, OR (c) accompanies a Request for Continued Examination. No certification or fee is required.
- ☐ 2. This Information Disclosure Statement is being filed more than three months after the U.S. filing date AND after the mailing date of the first Office Action on the merits, but before the mailing date of a Final Rejection or Notice of Allowance.
- ☐ a. I hereby certify that each item of information contained in this Information Disclosure Statement was first cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. 37 CFR §1.97(e)(1).

- ☐ b. I hereby certify that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application or, to my knowledge after making reasonable inquiry, was known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 CFR §1.97(e)(2).
- ☐ c. Check number \_\_\_\_\_ in the amount of \$180.00 in payment of the fee under 37 CFR §1.17(p). Please charge any fee deficiency or credit any overpayment to Deposit Account Number 01-2300 as needed to ensure consideration of the disclosed information.
- ☐ 3. This Information Disclosure Statement is being filed more than three months after the U.S. filing date and after the mailing date of a Final Rejection or Notice of Allowance, but before payment of the Issue Fee. Applicants hereby petition that the Information Disclosure Statement be considered. Attached is our check number \_\_\_\_\_ in the amount of \$180.00 in payment of the petition fee under 37 CFR §1.17(i)(1). Please charge any fee deficiency or credit any overpayment to Deposit Account Number 01-2300 as needed to ensure consideration of the disclosed information.
- ☐ a. I hereby certify that each item of information contained in this Information Disclosure Statement was first cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. 37 CFR §1.97(e)(1).
- ☐ b. I hereby certify that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application or, to my knowledge after making reasonable inquiry, was known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 CFR §1.97(e)(2).
- ☒ 4. The relevance of the non-English language reference is discussed in the present specification.

This reference discloses a power supply apparatus wherein, to improve the transient characteristic of the output voltage against a high-speed variation in the load, a predetermined bias voltage is constantly applied to the light-emitting element of a photocoupler provided, as a device for transmitting a signal between a primary and a secondary side, in a circuit for detecting an error in the output voltage. This helps increase the negative feedback response between the output error detection stage to the PWM control stage in the power supply apparatus. However, with this configuration, it is not possible to enhance the transient characteristic of the output voltage beyond a certain limit, and in addition the problem of the increased power consumption that accompanies the increased output current remains unsolved.

By contrast, according to the present invention, a power supply apparatus, while producing from an input voltage an output voltage within a predetermined permissible variation range, reduces the target level of the output voltage within the permissible variation range as the output current increases. This configuration helps enhance the transient characteristic of the output voltage against an abrupt variation in the output current and simultaneously reduce the power consumed when the output current increases.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Charles M. Marmelstein', with a long horizontal flourish extending to the right.

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Enclosures: Form PTO-1449  
Reference (1)

FORM PTO-1449	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTORNEY DOCKET NUMBER 103213-00079	NEW PATENT APPLICATION
LIST OF REFERENCES CITED BY APPLICANT  (Use several sheets if necessary)		APPLICANT Kiyotaka UMEMOTO et al.	
		FILING DATE April 13, 2004	GROUP ART UNIT

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB- CLASS	FILING DATE
	AA						
	AB						
	AC						
	AD						
	AE						
	AF						

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION YES NO PART.		
	AG	2002-186254	June 28, 2002	Japan					X
	AH								
	AI								
	AJ								
	AK								
	AL								

## OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)

	AM	
	AN	
	AO	

EXAMINER	DATE CONSIDERED
<p>*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.</p>	